


Symbol	Name	Synonyms	Organism
	CSF2 colony stimulating factor 2 (granulocyte-macrophage)	Colony-stimulating factor, CSF, GMCSF, GM-CSF, Granulocyte-macrophage colony-stimulating factor precursor, MGC131935, MGC138897, Molgramostin, Sargramostim	Homo sapiens

Wiki Genes [edit this page](#) 

UniProt [P04141](#), [Q2VPI8](#), [Q8NFI6](#)

PDB Structure [1CSG](#), [2GMF](#) [more than 1,500 organisms. 80,000 genes. 15 million sentences. ...always up to date - every day.](#)

OMIM [138960](#)

NCBI Gene [1437](#)


NCBI RefSeq [NP\\_000749](#)


NCBI RefSeq [NM\\_000758](#)

NCBI UniGene [1437](#)



Nature Pathways [P04141](#)



Homologues of CSF2 [...](#)




Definitions for CSF2  [...](#)




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

Granulocyte-colony stimulating factor (G-CSF ) and granulocyte-macrophage-colony stimulating factor (GM-CSF ) belong to a family of glycoprotein growth factors required for the survival, growth and differentiation of haematopoietic precursors and which affect the function of circulating mature cells. [1989]





The haematopoietic factors granulocyte-macrophage colony-stimulating factor (GM-CSF ) and granulocyte colony-stimulating factor (G-CSF ) prime neutrophils to be more responsive to a variety of stimuli. [1988]






The effect of these supernatants as a source of recombinant IL-3 ) was compared to that of recombinant human granulocyte-macrophage colony-stimulating factor (GM-CSF ) and granulocyte colony-stimulating factor (G-CSF ) as well as to that of medium conditioned by phytohemagglutinin-stimulated leukocytes. [1987]





Stimulatory activity was significantly greater than in the presence of GM-CSF ) and was comparable to that of granulocyte colony-stimulating factor (G-CSF ), interleukin 3 (IL-3 ), and 5637 cell line supernatant (SN). [1992]






We demonstrate that U87MG can be induced to increase its production of GM-CSF ) and G-CSF ) by exposure to TNF-alpha ) while U373MG is induced to produce GM-CSF ) but not G-CSF ). [1991]




Production of TNF ) and monocyte-mediated cytotoxicity against U937 tumor cells was significantly increased in monocytes derived from patients receiving GM-CSF ), as compared to those from the control group, while no effect was detectable in monocytes from patients with G-CSF ) therapy. [1995]




IL-4 ) stimulates G-CSF )-induced colony-forming unit-granulocyte (CFU-G) and inhibits all colony types induced by GM-CSF ) and IL-3 ) in the HLA-DR++ population, but not in the HLA-DR+ population. [1993]




We have now developed a method for obtaining a large number of DCs by treating the granulocyte colony-stimulating factor (G-CSF ) mobilized peripheral blood stem cells (PBSCs) from healthy donors with granulocyte-macrophage colony-stimulating factor (GM-CSF ), interleukin-4 ) (IL-4 ), and tumor necrosis factor-alpha (TNF-alpha ). [2001]



However, SCF ) potentiated the stimulatory effect of GM-CSF ), G-CSF ), and IL-3 ) on both 3H-TdR incorporation and colony formation. [1992]

CD34+ cells enriched from bone marrow were cultured for up to 5 weeks in interleukin-3 (IL-3 ), granulocyte-macrophage colony-stimulating factor (GM-CSF ) and granulocyte colony-stimulating factor (G-CSF ) with or without stem cell factor (SCF ) (also termed c-kit ligand ). [1993]

Our data also show that G-CSF )- and GM-CSF )-stimulated monocytes can mediate cytotoxicity of target leukemia cells comparable to that of IFN-gamma )-stimulated monocytes. [1995]

Gamma-interferon (IFN-gamma ) and granulocyte-macrophage colony-stimulating factor (GM-CSF ) have been reported to suppress NAP induction with G-CSF ). [1992]

In the next 11 patients, stem cells were harvested after CT + granulocyte colony-stimulating factor (G-CSF ) and lymphocytes were harvested after CT + granulocyte-macrophage colony-stimulating factor (GM-CSF ) and interleukin-2 ). [2002]

We examined the ability of proinflammatory cytokines such as TNFalpha, IL-1 , and G-CSF ) to induce this process